16 bit DIGITAL SYNTHESIZER

K4 WAVE LIST

CONTENTS

1-96 CYCLIC WAVE LIST

1 SIN 1ST
2 SIN 2ND
3 SIN 3RD
4 SIN 4TH
5 SIN 5TH
6 SIN 6TH
7 SIN 7TH
8 SIN 8TH
9 SIN 9TH
10 SAW 1
11 SAW 2
12 SAW 3
13 SAW 4
14 SAW 5
15 SAW 6
16 SAW 7
17 SAW 8
18 PLUSE
19 TRIANGLE
20 SQUARE
21 RECTANGLAR 1
22 RECTANGLAR 2
23 RECTANGLAR 3
24 RECTANGLAR 4
25 RECTANGLAR 5
26 RECTANGLAR 6
27 PURE HORN L
28 PUNCH BRASS 1
29 OBOE 1
30 OBOE 2
31 CLASSIC GRAND
32 EP 1
33 EP 2
34 EP 3
35 E.ORGAN 1
36 E.ORGAN 2
37 POSITIF
38 E.ORGAN 3
39 E.ORGAN 4
40 E.ORGAN 5
41 E.ORGAN 6
42 E.ORGAN 7
43 E.ORGAN 8
44 E.ORGAN 9
45 CLASSIC GUITAR
46 STEEL STRINGS
47 HARP
48 WOOD BASS
49 SYN BASS 3
50 DIGI BASS
51 FINGER BASS
52 MARIMBA
53 SYN VOICE
54 GLASS HARP 1
55 CELLO
56 XYLO
57 EP 4
58 SYN CLAVI 1
59 EP 5
60 E.ORGAN 10
61 E.ORGAN 11
62 E.ORGAN 12
63 BIG PIPE
64 GLASS HARP 2
65 RANDOM
66 EP 6
67 SYN BASS 4
68 SYN BASS 1
69 SYN BASS 2
70 QUENA
71 OBOE 3
72 PURE HORN H
73 FAT BRASS
74 PUNCH BRASS 2
75 EP 7
76 EP 8
77 SYN CLAVI 2
78 HARPSICHORD M
79 HARPSICHORD L
80 HARPSICHORD H
81 E.ORGAN 13
82 KOTO
83 SITAR L
84 SITAR H
85 PICK BASS
86 SYN BASS 5
87 SYN BASS 6
88 VIBRAPHONE ATTACK
89 VIBRAPHONE 1
90 HORN VIBE
91 STEEL DRUM 1
92 STEEL DRUM 2
93 VIBRAPHONE 2
94 MARIMBA ATTACK
95 HARMONICA
96 SYNTH

97-256 PCM WAVE LIST

— DRUM & PERCUS GROUP —

97 KICK
98 GATED KICK
99 SNARE TITE
100 SNARE DEEP
101 SNARE HI
102 RIM SNARE
103 RIM SHOT
104 TOM
105 TOM VR
106 E.TOM
107 HH CLOSED
108 HH OPEN
109 HH OPEN VR
110 HH FOOT
111 CRASH
112 CRASH VR
113 CRASH VR 2
114 RIDE EDGE
115 RIDE EDGE VR
116 RIDE CUP
117 RIDE CUP VR
118 CLAPS
119 COWBELL
120 CONGA
121 CONGA SLAP
122 TAMBOURINE
123 TAMBOURINE VR
124 CLAVES
125 TIMBALE
126 SHAKER
127 SHAKER VR
128 TIMPANI
129 TIMPANI VR
130 SLEIBELL
131 BELL
132 METAL HIT
133 CLICK
134 POLE
135 GLOCKEN
136 MARIMBA
137 PIANO ATTACK
138 WATER DROP
139 CHAR

— MULTI GROUP —

140 PIANO NRML
141 PIANO VR
142 CELLO NRML

143 CELLO VR1
144 CELLO VR2
145 CELLO 1 SHOT
146 STRINGS NRML
147 STRINGS VR
148 SLAP BASS L NRML
149 SLAP BASS L VR
150 SLAP BASS L 1 SHOT
151 SLAP BASS H NRML
152 SLAP BASS H VR
153 SLAP BASS H 1 SHOT
154 PICK BASS NRML
155 PICK BASS VR
156 PICK BASS 1 SHOT
157 WOOD BASS ATTACK
158 WOOD BASS NRML
159 WOOD BASS VR
160 FRETLESS NRML
161 FRETLESS VR
162 SYN.BASS NRML
163 SYN.BASS VR
164 E.G MUTE NRML
165 E.G MUTE VR
166 E.G MUTE 1 SHOT
167 DIST MUTE NRML
168 DIST MUTE VR
169 DIST MUTE 1 SHOT
170 DIST LEAD NRML
171 DIST LEAD VR
172 E.GUITAR NRML
173 GUT GUITAR NRML
174 GUT GUITAR VR
175 GUT GUITAR 1 SHOT
176 FLUTE NRML
177 FLUTE 1 SHOT
178 BOTTLE BLOW NRML
179 BOTTLE BLOW VR
180 SAX NRML
181 SAX VR 1
182 SAX VR 2
183 SAX 1 SHOT
184 TRUMPET NRML
185 TRUMPET VR 1
186 TRUMPET VR 2
187 TRUMPET 1 SHOT
188 TROMBONE NRML
189 TROMBONE VR
190 TROMBONE 1 SHOT
191 VOICE
192 NOISE

— BLOCK GROUP —

193 PIANO 1
194 PIANO 2
195 PIANO 3
196 PIANO 4
197 PIANO 5
198 CELLO 1
199 CELLO 2
200 CELLO 3
201 CELLO 4 1 SHOT
202 CELLO 5 1 SHOT
203 CELLO 6 1 SHOT
204 STRINGS 1
205 STRINGS 2
206 SLAP BASS L
207 SLAP BASS L 1 SHOT
208 SLAP BASS H
209 SLAP BASS H 1 SHOT
210 PICK BASS 1
211 PICK BASS 2 1 SHOT
212 PICK BASS 3 1 SHOT
213 E.G MUTE
214 E.G MUTE 1 SHOT
215 DIST LEAD 1
216 DIST LEAD 2
217 DIST LEAD 3
218 GUT GUITAR 1
219 GUT GUITAR 2
220 GUT GUITAR 3 1 SHOT
221 GUT GUITAR 4 1 SHOT
222 FLUTE 1
223 FLUTE 2
224 SAX 1
225 SAX 2
226 SAX 3
227 SAX 4 1 SHOT
228 SAX 5 1 SHOT
229 SAX 6 1 SHOT
230 TRUMPET
231 TRUMPET 1 SHOT
232 VOICE 1
233 VOICE 2

— REVERSE & LOOP —

234 REVERSE 1
235 REVERSE 2
236 REVERSE 3
237 REVERSE 4
238 REVERSE 5
239 REVERSE 6
240 REVERSE 7
241 REVERSE 8
242 REVERSE 9
243 REVERSE 10
244 REVERSE 11
245 LOOP 1
246 LOOP 2
247 LOOP 3
248 LOOP 4
249 LOOP 5
250 LOOP 6
251 LOOP 7
252 LOOP 8
253 LOOP 9
254 LOOP 10
255 LOOP 11
256 LOOP 12

16 bit DIGITAL SYNTHESIZER

K4 MIDI IMPLEMENTATION

CONTENTS

1. TRANSMITTED DATA

1st	2nd	3rd	Description	
1000nnnn	0kkkkkkk	01vvvvvv	Note off	kkkkkkk = 24 ~ 108 vvvvvv = 0 ~ 127
1001nnnn	0kkkkkkk	0vvvvvvv	Note on	kkkkkkk = 24 ~ 108 vvvvvv = 1 ~ 127
1011nnnn	00000001	0vvvvvvv	Modulation	vvvvvv = 0 ~ 127
1011nnnn	00000110	0vvvvvvv	Data Entry	vvvvvv = 0 ~ 127
1011nnnn	01000000	0vvvvvvv	Hold 1 sw	vvvvvv = 0 off vvvvvv = 127 on
1011nnnn	01100100	0vvvvvvv	RPC LSB	vvvvvv = 0 Bender Range vvvvvv = 1 Fine Tuning
1011nnnn	01100101	0vvvvvvv	RPC MSB	vvvvvv = 0
1100nnnn	0ppppppp	--------	Program Change	ppppppp = 0 ~ 63 Single I/E A-1 ~ D-16 ppppppp = 64 ~ 127 Multi ppppppp = I/E A-1 ~ D-16
1101nnnn	0vvvvvvv	--------	Ch. Pressure	vvvvvv = 0 ~ 127
1110nnnn	0b000000	0vvvvvvv	Pitch Bender	vvvvvvb = 0 ~ 255
1011nnnn	01111011	00000000	All Notes off	
11111110	--------	--------	Active Sensing	

nnnn = Channel no.
RPC Regitered Parameter Control

2. RECOGNIZED RECEIVED DATA

1st	2nd	3rd	Description	
1000nnnn	0kkkkkkk	0vvvvvvv	Note off	kkkkkkk = 0 ~ 120 vvvvvv = 0 ~ 127
1001nnnn	0kkkkkkk	0vvvvvvv	Note on/off	kkkkkkk = 0 ~ 120 vvvvvv = 1 ~ 127 Note on vvvvvv = 0 off
1011nnnn	00000001	0vvvvvvv	Modulation	vvvvvv = 0 ~ 127
1011nnnn	00000111	0vvvvvvv	Main Volume	vvvvvv = 0 ~ 127
1011nnnn	00000110	0vvvvvvv	Data Entry	vvvvvv = 0 ~ 127
1011nnnn	01000000	0vvvvvvv	Hold 1 sw	vvvvvv = 0 ~ 63 off vvvvvv = 64 ~ 127 on
1011nnnn	01100100	0vvvvvvv	RPC LSB	vvvvvv = 0 Bender Range vvvvvv = 1 Fine Tuning
1011nnnn	01100101	0vvvvvvv	RPC MSB	vvvvvv = 0
1100nnnn	0ppppppp	--------	Program Change	ppppppp = 0 ~ 63 Single I/E A-1 ~ D-16 ppppppp = 64 ~ 127 Multi I/E A-1 ~ D-16
1101nnnn	0vvvvvvv	--------	Ch. Pressure	vvvvvv = 0 ~ 127
1110nnnn	0b000000	0vvvvvvv	Pitch Bender	vvvvvvb = 0 ~ 255
1011nnnn	01111010	0vvvvvvv	Local on/off	vvvvvv = 0 ~ 63 off 64 ~ 127 on
1011nnnn	01111011	00000000	All Notes off	
1011nnnn	01111100	00000000	Omni off	
1011nnnn	01111101	00000000	Omni on	
11111110	--------	--------	Active Sensing	

nnnn = Channel no.
RPC Regitered Parameter Control

3. EXCLUSIVE DATA FORMAT

3-1. KAWAI FORMAT

Followings is the exclusive data format of the K4/K4r , and is based on the "KAWAI MIDI EXCLUSIVE FORMAT".

K4/K4r MIDI EXCLUSIVE FORMAT

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	0fffffff		
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub1	0sssssss		Sub command1
Sub2	0sssssss		Sub command2
data	0xxxxxxx		
data	0xxxxxxx		
•			
•			
•			
data	0xxxxxxx		
data	0xxxxxxx		
EOX	11110111	F7H	

The Exclusive data is received only when The system RCV EXCL = ON, except ID request and program change (int/ext).
Function no., Sub1 and Sub2 are listed in FUNCTION TABLE.

3-2. UNIVERSAL SYSTEM EXCLUSIVE FORMAT

K4/K4r uses non-real time format for ID request. The following is the standard of the non-real time system exclusive messages.

Status	11110000	F0H	System exclusive
id no.	01111110	7EH	Non-real time
Channel no.	0nnnnnnn		
Sub id #1	0xxxxxxx		
Sub id #2	0xxxxxxx		
data	0xxxxxxx		
data	0xxxx xx		
•			
•			
•			
data	0xxxxxxx		
data	0xxxxxxx		
EOX	11110111	F7H	

4. EXCLUSIVE TRANSMITTED DATA

4-1. ONE SINGLE/MULTI DATA DUMP

This message is transmitted by the next 2 ways.
First, transmits the patch data which is selected on the panel, according to the MIDI DUMP SELECT parameter (TONE).
Second, after receving the ONE BLOCK DATA REQ, the k4/k4r transmits the one block data which is decided by it.
See SINGLE DATA LIST regarding the data.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100000	20H	One patch data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	0000000x	00H	Internal
		02H	External
Sub status 2	0xxxxxxx		0 ~ 63 SINGLE A-1 ~ D-16
			64 ~ 127 MULTI A-1 ~ D-16
data	0xxxxxxx		patch data s0/m0
data	0xxxxxxx		patch data s1/m1
data	0xxxxxxx		patch data s2/m2
*			
*			
*			
data	0xxxxxxx		patch data s128/m74
data	0xxxxxxx		patch data s129/m75
data	0xxxxxxx		patch data s130/m76
EOX	11110111	F7H	

4-2. ONE DRUM/EFFECT DATA DUMP

This message is transmitted by the next 2 ways.
First, transmits the patch data which is selected on the panel, according to the MIDI DUMP SELECT parameter (= DRUM/EFCT).
Second, after receving the ONE PATCH DATA REQ, the k4/k4r transmits the one drum/effect data which is decided by it.
See DRUM, EFFECT DATA LIST regarding the data.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100000	20H	One patch data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000x1	01H	Internal
		03H	External
Sub status 2	00xxxxxx		0 ~ 31 effect 1 ~ 32
			32 drum
data	0xxxxxxx		patch data e0/d0
data	0xxxxxxx		patch data e1/d1
data	0xxxxxxx		patch data e2/d2
*			
*			
*			
data	0xxxxxxx		patch data e32/d679
data	0xxxxxxx		patch data e33/d680
data	0xxxxxxx		patch data e34/d681
EOX	11110111	F7H	

4-3. BLOCK SINGLE/MULTI DATA DUMP

This message is transmitted when MIDI DUMP SELECT="SGL or "MLT, or when "BLOCK PATCH REQUEST" is received.
If there is the check sum error patch , K4/K4r aborts the data dump.

See SINGLE/MULTI DATA LIST regarding the data.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100001	21H	block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000x0	00H	int
		02H	ext
Sub status 2	00x00000	00H	all singles
		40H	all multis
data	0xxxxxxx		A-1 s0/m0 data
data	0xxxxxxx		A-1 s1/m1 data
data	0xxxxxxx		A-1 s2/m2 data
data	0xxxxxxx		A-1 s3/m3 data
*			
*			
*			
data	0xxxxxxx		A-1 s127/m73 data
data	0xxxxxxx		A-1 s128/m74 data
data	0xxxxxxx		A-1 s129/m75 data
data	0xxxxxxx		A-1 s130/m76 data
data	0xxxxxxx		A-2 s0/m0 data
data	0xxxxxxx		A-2 s1/m1 data
data	0xxxxxxx		A-2 s2/m2 data
data	0xxxxxxx		A-2 s3/m3 data
*			
*			
*			
data	0xxxxxxx		A-2 s1/m127/m73 data
data	0xxxxxxx		A-2 s1/m128/m74 data
data	0xxxxxxx		A-2 s1/m129/m75 data
data	0xxxxxxx		A-2 s1/m130/m76 data
A-3 patch data			
A-4 patch data			
A-5 patch data			
*			
*			
*			
D-13 patch data			
D-14 patch data			
D-15 patch data			
data	0xxxxxxx		D-16 s0/m0 data
data	0xxxxxxx		D-16 s1/m1 data
data	0xxxxxxx		D-16 s2/m2 data
data	0xxxxxxx		D-16 s3/m3 data
*			
*			
*			
data	0xxxxxxx		D-16 S127/m73 data
data	0xxxxxxx		D-16 s128/m74 data
data	0xxxxxxx		D-16 s129/m75 data
data	0xxxxxxx		D-16 s130/m76 data
EOX	11110111	F7H	

4-4. BLOCK EFFECT DATA DUMP

This message is transmitted when MIDI DUMP SELECT="EFF, or when "BLOCK PATCH REQUEST" is received.
If there is the check sum error patch , K4/K4r aborts the data dump.

See EFFECT DATA LIST regarding the data.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100001	21H	block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000x1	01H	int
		03H	ext
Sub status 2	00000000	00H	all effect
data	0xxxxxxx		EFF-1 e0 data
data	0xxxxxxx		EFF-1 e1 data
data	0xxxxxxx		EFF-1 e2 data
data	0xxxxxxx		EFF-1 e3 data
•			
•			
•			
data	0xxxxxxx		EFF-1 e31 data
data	0xxxxxxx		EFF-1 s32 data
data	0xxxxxxx		EFF-1 s33 data
data	0xxxxxxx		EFF-1 s34 data
data	0xxxxxxx		EFF-2 e0 data
data	0xxxxxxx		EFF-2 e1 data
data	0xxxxxxx		EFF-2 e2 data
data	0xxxxxxx		EFF-2 e3 data
•			
•			
•			
data	0xxxxxxx		EFF-2 e31 data
data	0xxxxxxx		EFF-2 e32 data
data	0xxxxxxx		EFF-2 e33 data
data	0xxxxxxx		EFF-2 e34 data
EFF-3 patch data			
EFF-4 patch data			
EFF-5 patch data			
•			
•			
•			
EFF-13 patch data			
EFF-14 patch data			
EFF-15 patch data			
data	0xxxxxxx		EFF-16 e0 data
data	0xxxxxxx		EFF-16 e1 data
data	0xxxxxxx		EFF-16 e2 data
data	0xxxxxxx		EFF-16 e3 data
•			
•			
•			
data	0xxxxxxx		EFF-16 e31 data
data	0xxxxxxx		EFF-16 e32 data
data	0xxxxxxx		EFF-16 e33 data
data	0xxxxxxx		EFF-16 e34 data
EOX	11110111	F7H	

4-5. ALL PATCH DATA DUMP

This message is transmitted when MIDI DUMP SELECT=ALL, or when "ALL PATCH DATA REQUEST" is received.
K4/K4r transmits all singles at first and all multi, drum and all effects.
The K4/K4r aborts the data dump.
See MULTI DATA LIST regarding the data.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100010	22H	All block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000a0	00H	int
		02H	ext
Sub status 2	00000000	00H	
data	0xxxxxxx		A-1 s0 data
data	0xxxxxxx		A-1 s1 data
data	0xxxxxxx		A-1 s2 data
data	0xxxxxxx		A-1 s3 data
•			
•			
•			
data	0xxxxxxx		D-16 s127 data
data	0xxxxxxx		D-16 s128 data
data	0xxxxxxx		D-16 s129 data
data	0xxxxxxx		D-16 s130 data
data	0xxxxxxx		A-1 M0 data
data	0xxxxxxx		A-1 M1 data
data	0xxxxxxx		A-1 M2 data
data	0xxxxxxx		A-1 M3 data
•			
•			
•			
data	0xxxxxxx		D-16 M83 data
data	0xxxxxxx		D-16 M84 data
data	0xxxxxxx		D-16 M85 data
data	0xxxxxxx		D-16 M86 data
data	0xxxxxxx		DRUM d0 data
data	0xxxxxxx		DRUM d1 data
data	0xxxxxxx		DRUM d2 data
data	0xxxxxxx		DRUM d3 data
•			
•			
•			
data	0xxxxxxx		DRUM d678 data
data	0xxxxxxx		DRUM d679 data
data	0xxxxxxx		DRUM d680 data
data	0xxxxxxx		DRUM d681 data
data	0xxxxxxx		EFF-1 e0 data
data	0xxxxxxx		EFF-1 e1 data
data	0xxxxxxx		EFF-1 e2 data
data	0xxxxxxx		EFF-1 e3 data
•			
•			
•			
data	0xxxxxxx		EFF-32 e31 data
data	0xxxxxxx		EFF-32 e32 data
data	0xxxxxxx		EFF-32 e33 data
data	0xxxxxxx		EFF-32 e34 data
EOX	11110111	F7H	

4-6. PROGRAM CHANGE (INT/EXT)

This is for changing internal or external patches.
K4/K4r transmits this message when changed internal to external or ext to int.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00110000	30H	Program change (int/ext)
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000a0	00H	int
		02H	ext
EOX	11110111	F7H	

4-7. WRITE COMPLETE

When the received dump data has been completely written, the K4/K4r transmits this message.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	01000000	40H	Write complete
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
EOX	11110111	F7H	

4-8. WRITE ERROR

If illegal data is found in the received dump data, the K4/K4r transmits this message.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	010000xx	41H	write error
		42H	write error (protect)
		43H	write error (no card)
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
EOX	11110111	F7H	

4-9. IDENTITY REPLY

Receiving the ID request, the K4/K4r transmits this message.

Status	11110000	F0H	System exclusive
id no.	01111110	7EH	Non-real time
Channel no.	0nnnnnnn		
Sub id #1	00000110	06H	General informaion
Sub id #2	00000010	02H	Device identity reply
Kawai id	01000000	40H	Manufacturers id
device family	00000000	00H	synth group lsb
device family	00000000	00H	synth goup msb
device no.	00000100	04H	k4/k4r id lsb
device no.	00000000	00H	k4/k4r id msb
format spec.	00000000	00H	format no.00
format spec.	00000000	00H	format no.00
format spec.	00000000	00H	format no.00
format spec.	00000000	00H	format no.00
EOX	11110111	F7H	

5. EXCLUSIVE RECOGNIZED RECEIVED DATA

5-1. ONE SINGLE/MULTI DATA REQUEST

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00000000	00H	One patch data request
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a0	00H	int
		02H	ext
Sub status 2	0bbbbbbb		single or multi patch no.
EOX	11110111	F7H	

5-2. ONE DRUM/EFFECT DATA REQUEST

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00000000	00H	One patch data request
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a1	01H	int
		03H	ext
Sub status 2	00bbbbbb	0~1FH	effect patch no.
		20H	drum
EOX	11110111	F7H	

5-3. BLOCK SINGLE/MULTI DATA REQUEST

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00000001	01H	block patch data request
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a0	00H	int
		02H	ext
Sub status 2	0x000000	00H	single
		40H	multi
EOX	11110111	F7H	

5-4. BLOCK EFFECT DATA REQUEST

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00000001	01H	block patch data request
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a1	01H	int
		03H	ext
Sub status 2	00000000	00H	
EOX	11110111	F7H	

5-5. ALL DATA REQUEST

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00000010	02H	all patch data request
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a0	00H	int
		02H	ext
Sub status 2	0x000000	00H	
EOX	11110111	F7H	

5-6. PARAMETER SEND

(SINGLE)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00010000	10H	Parameter send
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	0ppppppp		0~69 parameter no.
Sub status 2	00000ssd		ss 0/S1, 1/S2, 2/S3, 3/S4, d=Value's MSB
data	0xxxxxxx		Value dxxxxxxx
EOX	11110111	F7H	

(DRUM)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00010000	10H	Parameter send
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	0ppppppp		70~81 parameter no.
Sub status 2	0ssssssd		ssssss 0~60 key no., d=Value's MSB
data	0xxxxxxx		Value dxxxxxxx
EOX	11110111	F7H	

(EFFECT)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00010000	10H	Parameter send
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	0ppppppp		82~88 pameter no.
Sub status 2	0000sssd		sss 0~7 submix/output ch, d=Value's MSB
data	0xxxxxxx		Value dxxxxxxx
EOX	11110111	F7H	

5-7. ONE SINGLE/MULTI DATA DUMP

After recceiving this message, the K4/K4r transmits "WRITE COMPLETE" if it is okay, or "WRITE ERROR" if it is not.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100000	20H	One block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000a0	00H	int
		02H	ext
Sub status 2	0bbbbbbb		0~63 single
			64~127 multi
data	0xxxxxxx		patch data s0/m0
data	0xxxxxxx		patch data s1/m1
data	0xxxxxxx		patch data s2/m2
*			
*			
*			
data	0xxxxxxx		patch data s1/m128/m74
data	0xxxxxxx		patch data s1/m129/m75
data	0xxxxxxx		patch data s1/m130/m76
EOX	11110111	F7H	

5-8. ONE DRUM/EFFECT DATA DUMP

After recceiving this message, the K4/K4r transmits "WRITE COMPLETE" if it is okay, or "WRITE ERROR" if it is not.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100000	20H	One patch data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	000000x1	01H	Internal
		03H	External
Sub status 2	00xxxxxx		0~31 effect 1~32
			32 drum
data	0xxxxxxx		patch data e0/d0
data	0xxxxxxx		patch data e1/d1
data	0xxxxxxx		patch data e2/d2
*			
*			
*			
data	0xxxxxxx		patch data e32/d679
data	0xxxxxxx		patch data e33/d680
data	0xxxxxxx		patch data e34/d681
EOX	11110111	F7H	

5-9. BLOCK SINGLE/MULTI DATA DUMP

After recceiving this message, the K4/K4r transmits "WRITE COMPLETE" if it is okay, or "WRITE ERROR" if it is not.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100001	21H	block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000x0	00H	int
		02H	ext
Sub status 2	00x00000	00H	all singles
		40H	all multis
data	0xxxxxxx		A-1 s0/m0 data
data	0xxxxxxx		A-1 s1/m1 data
data	0xxxxxxx		A-1 s2/m2 data
data	0xxxxxxx		A-1 s3/m3 data
*			
*			
*			
data	0xxxxxxx		A-1 s127/m73 data
data	0xxxxxxx		A-1 s128/m74 data
data	0xxxxxxx		A-1 s129/m75 data
data	0xxxxxxx		A-1 s130/m76 data
data	0xxxxxxx		A-2 s0/m0 data
data	0xxxxxxx		A-2 s1/m1 data
data	0xxxxxxx		A-2 s2/m2 data
data	0xxxxxxx		A-2 s3/m3 data
*			
*			
*			
data	0xxxxxxx		A-2 s1/m127/m73 data
data	0xxxxxxx		A-2 s1/m128/m74 data
data	0xxxxxxx		A-2 s1/m129/m75 data
data	0xxxxxxx		A-2 s1/m130/m76 data
A-3 patch data			
A-4 patch data			
A-5 patch data			
*			
*			
*			
D-13 patch data			
D-14 patch data			
D-15 patch data			
data	0xxxxxxx		D-16 s0/m0 data
data	0xxxxxxx		D-16 s1/m1 data
data	0xxxxxxx		D-16 s2/m2 data
data	0xxxxxxx		D-16 s3/m3 data
*			
*			
*			
data	0xxxxxxx		D-16 S127/m73 data
data	0xxxxxxx		D-16 s128/m74 data
data	0xxxxxxx		D-16 s129/m75 data
data	0xxxxxxx		D-16 s130/m76 data
EOX	11110111	F7H	

5-10. BLOCK EFFECT DATA DUMP

After recceiving this message, the K4/K4r transmits "WRITE COMPLETE" if it is okay, or "WRITE ERROR" if it is not.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100001	21H	block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000x1	01H	int
		03H	ext
Sub status 2	00100000	40H	all effect
data	0xxxxxxx		EFF-1 e0 data
data	0xxxxxxx		EFF-1 e1 data
data	0xxxxxxx		EFF-1 e2 data
data	0xxxxxxx		EFF-1 e3 data
⋮			
data	0xxxxxxx		EFF-1 e31 data
data	0xxxxxxx		EFF-1 s32 data
data	0xxxxxxx		EFF-1 s33 data
data	0xxxxxxx		EFF-1 s34 data
data	0xxxxxxx		EFF-2 e0 data
data	0xxxxxxx		EFF-2 e1 data
data	0xxxxxxx		EFF-2 e2 data
data	0xxxxxxx		EFF-2 e3 data
⋮			
data	0xxxxxxx		EFF-2 e31 data
data	0xxxxxxx		EFF-2 e32 data
data	0xxxxxxx		EFF-2 e33 data
data	0xxxxxxx		EFF-2 e34 data
EFF-3 patch data			
EFF-4 patch data			
EFF-5 patch data			
⋮			
EFF-13 patch data			
EFF-14 patch data			
EFF-15 patch data			
data	0xxxxxxx		EFF-16 e0 data
data	0xxxxxxx		EFF-16 e1 data
data	0xxxxxxx		EFF-16 e2 data
data	0xxxxxxx		EFF-16 e3 data
⋮			
data	0xxxxxxx		EFF-16 e31 data
data	0xxxxxxx		EFF-16 e32 data
data	0xxxxxxx		EFF-16 e33 data
data	0xxxxxxx		EFF-16 e34 data
EOX	11110111	F7H	

5-11. ALL PATCH DATA DUMP

After recceiving this message, the K4/K4r transmits "WRITE COMPLETE" if it is okay, or "WRITE ERROR" if it is not.

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100010	22H	All block data dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000a0	00H	int
		20H	ext
Sub status 2	00000000	00H	
data	0xxxxxxx		A-1 s0 data
data	0xxxxxxx		A-1 s1 data
data	0xxxxxxx		A-1 s2 data
data	0xxxxxxx		A-1 s3 data
⋮			
data	0xxxxxxx		D-16 s127 data
data	0xxxxxxx		D-16 s128 data
data	0xxxxxxx		D-16 s129 data
data	0xxxxxxx		D-16 s130 data
data	0xxxxxxx		A-1 M0 data
data	0xxxxxxx		A-1 M1 data
data	0xxxxxxx		A-1 M2 data
data	0xxxxxxx		A-1 M3 data
⋮			
data	0xxxxxxx		D-16 M83 data
data	0xxxxxxx		D-16 M84 data
data	0xxxxxxx		D-16 M85 data
data	0xxxxxxx		D-16 M86 data
data	0xxxxxxx		DRUM d0 data
data	0xxxxxxx		DRUM d1 data
data	0xxxxxxx		DRUM d2 data
data	0xxxxxxx		DRUM d3 data
⋮			
data	0xxxxxxx		DRUM d678 data
data	0xxxxxxx		DRUM d679 data
data	0xxxxxxx		DRUM d680 data
data	0xxxxxxx		DRUM d681 data
data	0xxxxxxx		EFF-1 e0 data
data	0xxxxxxx		EFF-1 e1 data
data	0xxxxxxx		EFF-1 e2 data
data	0xxxxxxx		EFF-1 e3 data
⋮			
data	0xxxxxxx		EFF-32 e31 data
data	0xxxxxxx		EFF-32 e32 data
data	0xxxxxxx		EFF-32 e33 data
data	0xxxxxxx		EFF-32 e34 data
EOX	11110111	F7H	

5-12. EDIT BUFFER DUMP

Receiving this dump data, K4/K4r does not store to int/ext memory but only treats as the temporaly patch data.

(SINGLE/MULTI)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100011	23H	edit buffer dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	00000000		single/multi
Sub status 2	000x0000	00H	single
		40H	multi
data	0xxxxxxx		s0/m0 data
data	0xxxxxxx		s1/m1 data
data	0xxxxxxx		s2/m2 data
data	0xxxxxxx		s3/m3 data
⋮			
data	0xxxxxxx		s127/m73 data
data	0xxxxxxx		s128/m74 data
data	0xxxxxxx		s129/m75 data
data	0xxxxxxx		s130/m76 data
EOX	11110111	F7H	

(DRUM/EFFECT)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00100011	23H	Edit buffer dump
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
Sub status 1	00000001	01H	drum/efect
Sub status 2	00x00000	00H	effect
		20H	drum
data	0xxxxxxx		data e0/d0
data	0xxxxxxx		data e1/d1
data	0xxxxxxx		data e2/d2
⋮			
data	0xxxxxxx		data e32/d679
data	0xxxxxxx		data e33/d680
data	0xxxxxxx		data e34/d681
EOX	11110111	F7H	

5-13. PROGRAM CHANGE (int/ext)

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	00110000	30H	Program change (int/ext)
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID no.
Sub status 1	000000a0	00H	int
		02H	ext
EOX	11110111	F7H	

5-14. WRITE COMPLETE

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	01000000	40H	Write complete
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
EOX	11110111	F7H	

5-15. WRITE ERROR

Status	11110000	F0H	System exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	0nH	
Function no.	010000xx	41H	write error
		42H	write error(protect)
		43H	write error(no card)
Group no.	00000000	00H	Synthesizer group
Machine ID no.	00000100	04H	K4/K4r ID. no.
EOX	11110111	F7H	

5-16. IDENTITY REQUEST

Receiving this message, the K4/K4r transmits idenity reply.

Status	11110000	F0H	System exclusive
id no.	01111110	7EH	Non-real time
Channel no.	0nnnnnnn		
Sub id #1	00000110	06H	General informaion
Sub id #2	00000001	01H	Identity request
EOX	11110111	F7H	

6. SINGLE DATA LIST

NO.	BYTE	PARAMETER NO.	NAME	DESCRIPTION
<COMMON>				
s00	0nnnnnnn	00	name1	ascii
s01	0nnnnnnn	01	name2	—
s02	0nnnnnnn	02	name3	—
s03	0nnnnnnn	03	name4	—
s04	0nnnnnnn	04	name5	—
s05	0nnnnnnn	05	name6	—
s06	0nnnnnnn	06	name7	—
s07	0nnnnnnn	07	name8	—
s08	0nnnnnnn	08	name9	—
s09	0nnnnnnn	09	name10	—
s10	0vvvvvvv	10	volume	0 ~ 100
s11	000eeeee	11	effect	0 ~ 31/1 ~ 32
s12	00000sss	12	out select	0 ~ 7/A ~ H
s13	ss	13	source mode	0/NORM,1/TWIN,2/DBL
	pp	14	poly mode	0/PL1,1/PL2,2/SOLO1,3/SOLO2
	c	15	am S1>S2	0/off, 1/on
	00c	16	am S3>S4	0/off, 1/on
s14	a		S1 mute	0/mute, 1/not mute
	b		S2 mute	0/mute, 1/not mute
	c		S3 mute	0/mute, 1/not mute
	d		S4 mute	0/mute, 1/not mute
	00ss	17	vib shape	0/TRI,1/SAW,2/SQR,3/RND
s15	pppp	18	pitch bend	0 ~ 12
	00ww	19	wheel assign	0/VIB,1/LFO,2/DCF
s16	0lllllll	20	vib speed	0 ~ 100
s17	0wwwwwww	21	wheel dep	0 ~ 100 (+-50)
s18	0ttttttt	22	auto bend time	0 ~ 100
s19	0aaaaaaa	23	auto bend depth	0 ~ 100 (+-50)
s20	0kkkkkkk	24	auto bend ks>time	0 ~ 100 (+-50)
s21	0vvvvvvv	25	auto bend vel>dep	0 ~ 100 (+-50)
s22	0aaaaaaa	26	vib prs>vib	0 ~ 100 (+-50)
s23	0ddddddd	27	vibrato dep	0 ~ 100 (+-50)
s24	000000ss	28	lfo shape	0/TRI,1/SAW,2/SQR,3/RND
s25	0lllllll	29	lfo speed	0 ~ 100
s26	0ddddddd	30	lfo delay	0 ~ 100
s27	0ddddddd	31	lfo dep	0 ~ 100 (+-50)
s28	0aaaaaaa	32	lfo prs>dep	0 ~ 100 (+-50)
s29	0ppppppp	33	pres>freq	0 ~ 100 (+-50)
<SOURCES>				
s30	0ddddddd	34	S1 delay	0 ~ 100
s31	—	—	S2 —	—
s32	—	—	S3 —	—
s33	—	—	S4 —	—
s34	000x	36	S1 wave select h	msb xwwwwwww 0 ~ 255/1 ~ 256
	0ccc	35	S1 ks curve	0 ~ 7/1 ~ 8
s35	—	—	S2 —	—
s36	—	—	S6 —	—
s37	—	—	S4 —	—
s38	0wwwwwww	36	S1 wave select l	0 ~ 127
s39	—	—	S2 —	—
s40	—	—	S3 —	—
s41	—	—	S4 —	—
s42	cccccc	37	S1 coarse	coarse 00 ~ 48/+-24
	0t	38	S1 key track	0/off, 1/on
s43	—	—	S2 —	—
s44	—	—	S3 —	—
s45	—	—	S4 —	—
s46	0ccccccc	39	S1 fix	fix 0 ~ 115/C-1 ~ G8
s47	—	—	S2 —	—
s48	—	—	S3 —	—
s49	—	—	S4 —	—
s50	0fffffff	40	S1 fine	0 ~ 100 (+-50)
s51	—	—	S2 —	—
s52	—	—	S3 —	—
s53	—	—	S4 —	—
s54	p	41	S1 prs>frq sw	0/off, 1/on
	v	42	S1 vib/a.bend sw	0/off, 1/on
	000vvv	43	S1 vel curve	0 ~ 7/1 ~ 8
s55	—	—	S2 —	—
s56	—	—	S3 —	—
s57	—	—	S4 —	—
<DCA>				
s58	0eeeeeee	44	S1 envelope level	0 ~ 100
s59	—	—	S2 —	—
s60	—	—	S3 —	—
s61	—	—	S4 —	—
s62	0eeeeeee	45	S1 envelope attack	0 ~ 100
s63	—	—	S2 —	—
s64	—	—	S3 —	—
s65	—	—	S4 —	—
s66	0eeeeeee	46	S1 envelope decay	0 ~ 100
s67	—	—	S2 —	—
s68	—	—	S3 —	—
s69	—	—	S4 —	—
s70	0eeeeeee	47	S1 envelope sustain	0 ~ 100
s71	—	—	S2 —	—
s72	—	—	S3 —	—
s73	—	—	S4 —	—
s74	0eeeeeee	48	S1 envelope release	0 ~ 100
s75	—	—	S4 —	—
s76	—	—	S3 —	—
s77	—	—	S4 —	—
s78	0ddddddd	49	S1 level mod vel	0 ~ 100 (+-50)
s79	—	—	S2 —	—
s80	—	—	S3 —	—
s81	—	—	S4 —	—
s82	0eeeeeee	50	S1 level mod prs	0 ~ 100 (+-50)

s83	—	—	S2 —	—
s84	—	—	S3 —	—
s85	—	—	S4 —	—
s86	0eeeeeee	51	S1 level mod ks	0 ~ 100 (+-50)
s87	—	—	S2 —	—
s88	—	—	S3 —	—
s89	—	—	S4 —	—
s90	0eeeeeee	52	S1 time mod on vel	0 ~ 100 (+-50)
s91	—	—	S2 —	—
s92	—	—	S3 —	—
s93	—	—	S4 —	—
s94	0eeeeeee	53	S1 time mod off vel	0 ~ 100 (+-50)
s95	—	—	S2 —	—
s93	—	—	S3 —	—
s97	—	—	S4 —	—
s98	0eeeeeee	54	S1 time mod ks	0 ~ 100 (+-50)
s99	—	—	S2 —	—
s100	—	—	S3 —	—
s101	—	—	S4 —	—
<DCF>				
s102	0ccccccc	55	F1 cutoff	0 ~ 100
s103	—	—	F2 —	—
s104	rrr	56	F1 resonance	0 ~ 7/1 ~ 8
	0000k	57	F1 lfo sw	0/off, 1/on
s105	—	—	F2 —	—
s106	0ddddddd	58	F1 cutoff mod vel	0 ~ 100 (+-50)
s107	—	—	F2 —	—
s108	0eeeeeee	59	F1 cutoff mod prs	0 ~ 100 (+-50)
s109	—	—	F2 —	—
s110	0eeeeeee	60	F1 cutoff mod ks	0 ~ 100 (+-50)
s111	—	—	F2 —	—
s112	0eeeeeee	61	F1 dcf env dep	0 ~ 100 (+-50)
s113	—	—	F2 —	—
s114	0eeeeeee	62	F1 dcf env vel dep	0 ~ 100 (+-50)
s115	—	—	F2 —	—
s116	0eeeeeee	63	F1 dcf env attack	0 ~ 100
s117	—	—	F2 —	—
s118	0eeeeeee	64	F1 dcf env decay	0 ~ 100
s119	—	—	F2 —	—
s120	0eeeeeee	65	F1 dcf env sustain	0 ~ 100
s121	—	—	F2 —	—
s122	0eeeeeee	66	F1 dcf env release	0 ~ 100
s123	—	—	F2 —	—
s124	0eeeeeee	67	F1 dcf time mod on vel	0 ~ 100 (+-50)
s125	—	—	F2 —	—
s126	0eeeeeee	68	F1 dcf time mod off vel	0 ~ 100 (+-50)
s127	—	—	F2 —	—
s128	0eeeeeee	69	F1 dcf time mod ks	0 ~ 100 (+-50)
s129	—	—	F2 —	—
s130	0ddddddd		check sum	0 ~ 127

Notes
Check sum value (s130) is the sum of the A5H and s0 ~ s129.

7. MULTI DATA LIST

NO.	BYTE	PARAMETER	DESCRIPTION
<MULTI COMMON>			
M0	nnnnnnn	name1	ascii
M1	nnnnnnn	name2	—
M2	nnnnnnn	name3	—
M3	nnnnnnn	name4	—
M4	nnnnnnn	name5	—
M5	nnnnnnn	name6	—
M6	nnnnnnn	name7	—
M7	nnnnnnn	name8	—
M8	nnnnnnn	name9	—
M9	nnnnnnn	name10	—
M10	0vvvvvvv	volume	0 ~ 99
M11	000eeeee	effect	0 ~ 31/1 ~ 32
<SECTION 1>			
M12	00aaaaaa	Single no.	0 ~ 63/A—1 ~ D—16
M13	0zzzzzzz	zone low	0 ~ 127/C—2 ~ G8
M14	0hhhhhhh	zone high	0 ~ 127/C—2 ~ G8
M15	rrrr	rcv ch	0 ~ 15/1 ~ 16
	vv	velo sw	0/all, 1/soft, 2/loud
	0m	section mute	
M16	sss	out select	0 ~ 7/A ~ H
	000mm	mode	0/kybd, 1/midi, 2/mix (K4)
M17	0eeeeeee	level	0 ~ 100
M18	00tttttt	transpose	0 ~ 48/0 ~ +-24
M19	0uuuuuuu	tune	0 ~ 100(0 ~ +-50)
<SECTION 2>			
M20	00aaaaaa	Single no.	0 ~ 63/A—1 ~ D—16
M21	0zzzzzzz	zone low	0 ~ 127/C—2 ~ G8
M22	0hhhhhhh	zone high	0 ~ 127/C—2 ~ G8
M23	rrrr	rcv ch	0 ~ 15/1 ~ 16
	vv	velo sw	0/all, 1/soft, 2/loud
	0m	section mute	
M24	sss	out select	0 ~ 7/A ~ H
	000mm	mode	0/kybd, 1/midi, 2/mix (K4)
M25	0eeeeeee	level	0 ~ 100
M26	00tttttt	transpose	0 ~ 48/0 ~ +-24
M27	0uuuuuuu	tune	0 ~ 100 (0 ~ +-50)
<SECTION 3>			
M28 ~ M35			
<SECTION 4>			
M36 ~ M43			
<SECTION 5>			
M44 ~ M51			
<SECTION 6>			
M52 ~ M59			
<SECTION 7>			
M60 ~ M67			
<SECTION 8>			
M68	00aaaaaa	Single no.	0 ~ 63/A-1 ~ D-16
M69	0zzzzzzz	zone low	0 ~ 127/C-2 ~ G8
M70	0hhhhhhh	zone high	0 ~ 127/C-2 ~ G8
M71	rrrr	rcv ch	0 ~ 15/1 ~ 16
	vv	velo sw	0/all, 1/soft, 2/loud
	0m	section mute	
M72	sss	out select	0 ~ 7/A ~ H
	000mm	mode	0/kybd, 1/midi, 2/mix (K4)
M73	0eeeeeee	level	0 ~ 100
M74	00tttttt	transpose	0 ~ 48/0 ~ +-24
M75	0uuuuuuu	tune	0 ~ 100 (0 ~ +-50)
M76	0ccccccc	check sum	0 ~ 127

Notes
The check sum value (M76) is the sum of A5H and M00 ~ M75.

8. DRUM DATA LIST

NO.	BYTE	PARAMETER NO.	PARAMETER NAME	DESCRIPTION
<COMMON>				
d00	0000cccc	70	drm rcv ch.	0 ~ 15/1 ~ 16
d01	0vvvvvvv	71	drm vol	0 ~ 100
d02	0vvvvvvv	72	drm vel depth	0 ~ 100
d03	0nnnnnnn		dummy	—
d04	0nnnnnnn		dummy	—
d05	0nnnnnnn		dummy	—
d06	0nnnnnnn		dummy	—
d07	0nnnnnnn		dummy	—
d08	0nnnnnnn		dummy	—
d09	0nnnnnnn		dummy	—
d10	0nnnnnnn		common check sum	0 ~ 127

Note
Check sum value (d10) is the sum of the A5H and d0 ~ d09.

NO.	BYTE	PARAMETER NO.	PARAMETER NAME	DESCRIPTION
<NOTE C1>				
D11	0sss	73	out select	0 ~ 7/A ~ H
	000X	74	s1 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d12	0000000X	75	s2 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d13	0wwwwwww	74	s1 wave select low	0 ~ 127
d14	0wwwwwww	75	s2 wave select low	0 ~ 127
d15	0ddddddd	76	s1 decay	0 ~ 100
d16	0ddddddd	77	s2 decay	0 ~ 100
d17	0ttttttt	78	s1 tune	0 ~ 100/0 ~ +-50
d18	0ttttttt	79	s2 tune	0 ~ 100/0 ~ +-50
d19	0eeeeeee	80	s1 level	0 ~ 99
d20	0eeeeeee	81	s2 level	0 ~ 99
d21	0ccccccc		check sum	0 ~ 127

Note
Check sum value (d21) is the sum of the A5H and d11 ~ d20.

NO.	BYTE	PARAMETER NO.	PARAMETER NAME	DESCRIPTION
<NOTE C#1>				
D22	0sss	73	out select	0 ~ 7/A ~ H
	000X	74	s1 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d23	0000000X	75	s2 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d24	0wwwwwww	74	s1 wave select low	0 ~ 127
d25	0wwwwwww	75	s2 wave select low	0 ~ 127
d26	0ddddddd	76	s1 decay	0 ~ 100
d27	0ddddddd	77	s2 decay	0 ~ 100
d28	0ttttttt	78	s1 tune	0 ~ 100/0 ~ +-50
d29	0ttttttt	79	s2 tune	0 ~ 100/0 ~ +-50
d30	0eeeeeee	80	s1 level	0 ~ 99
d31	0eeeeeee	81	s2 level	0 ~ 99
d32	0ccccccc		check sum	0 ~ 127

Note
Check sum value (d32) is the sum of the A5H and d22 ~ d31.

<D1 ~ B5>
d33 ~ d670

NO.	BYTE	PARAMETER NO.	PARAMETER NAME	DESCRIPTION
<C5>				
D671	0sss	73	out select	0 ~ 7/A ~ H
	000X	74	s1 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d672	0000000X	75	s2 wave select msb	xwwwwwww 0 ~ 255/1 ~ 256
d673	0wwwwwww	74	s1 wave select low	0 ~ 127
d674	0wwwwwww	75	s2 wave select low	0 ~ 127
d675	0ddddddd	76	s1 decay	0 ~ 100
d676	0ddddddd	77	s2 decay	0 ~ 100
d677	0ttttttt	78	s1 tune	0 ~ 100/0 ~ +-50
d678	0ttttttt	79	s2 tune	0 ~ 100/0 ~ +-50
d679	0eeeeeee	80	s1 level	0 ~ 99
d680	0eeeeeee	81	s2 level	0 ~ 99
d681	0ccccccc		check sum	0 ~ 127

Note
Check sum value (d681) is the sum of the A5H and d671 ~ d680.

9. EFFECT DATA LIST

NO.	BYTE	PARAMETER NO.	PARAMETER NAME	DESCRIPTION
<COMMON>				
e00	0000tttt	82	effect type	0 ~ 15/1 ~ 16
e01	00000ppp	83	para 1	0 ~ 7
e02	00000aaa	84	para 2	0 ~ 7
e03	000nnnnn	85	para 3	0 ~ 31
e04	0nnnnnnn		dummy	—
e05	0nnnnnnn		dummy	—
e06	0nnnnnnn		dummy	—
e07	0nnnnnnn		dummy	—
e08	0nnnnnnn		dummy	—
e09	0nnnnnnn		dummy	—
<A>				
e10	000ppppp	86	pan	0 ~ 15/0 ~ +-7 (k4) 0 ~ 15/0 ~ +-7, 16 ~ 21/I1 ~ I6 (K4r)
e11	0vvvvvvv	87	send 1	0 ~ 99
e12	0vvvvvvv	88	send 2	0 ~ 99
<B>				
e13	000ppppp	86	pan	0 ~ 15/0 ~ +-7 (k4) 0 ~ 15/0 ~ +-7, 16 ~ 21/I1 ~ I6 (K4r)
e14	0vvvvvvv	87	send 1	0 ~ 99
e15	0vvvvvvv	88	send 2	0 ~ 99
<C>				
e16 ~ e18				
<D>				
e19 ~ e21				
<E>				
e22 ~ e24				
<F>				
e25 ~ e27				
<G>				
e28 ~ e30				
<H>				
e31 ~ e33				
e34	0ddddddd		check sum	0 ~ 127

Note
Check sum value (e34) is the sum of the A5H and e0 ~ e33.

10. EXCLUSIVE FUNCTION TABLE

FUNCTION	FUNCTION NO.	SUB CMND 1	SUB CMND 2	DESCRIPTION	TRS	RCV
One Patch Dump Request	0 (00H)	0 0 1 1 2 2 3 3	0 ~ 63 64 ~ 127 0 ~ 31 32 0 ~ 63 64 ~ 127 0 ~ 31 32	ONE INT SINGLE DATA REQUEST ONE INT MULTI DATA REQUEST ONE INT EFFECT DATA REQUEST ONE INT DRUM DATA REQUEST ONE EXT SINGLE DATA REQUEST ONE EXT MULTI DATA REQUEST ONE EXT EFFECT DATA REQUEST ONE EXT DRUM DATA REQUEST	× × × × × × × ×	○ ○ ○ ○ ○ ○ ○ ○
Block Patch Dump Request	1 (01H)	0 0 1 2 2 3	0 64 0 0 64 0	ALL INT SINGLE DATA REQUEST ALL INT MULTI DATA REQUEST ALL INT EFFECT DATA REQUEST ALL EXT SINGLE DATA REQUEST ALL EXT MULTI DATA REQUEST ALL EXT EFFECT DATA REQUEST	× × × × × ×	○ ○ ○ ○ ○ ○
All Patch Dump Request	2 (02H)	0 2	0 0	ALL INT DATA REQUEST ALL EXT DATA REQUEST	× ×	○ ○
Parameter send	16 (10H)	0ppppppp	0sssssssd	SINGLE PARAMETER ppppppp 0 ~ 88 parameter no. ssssss 0 ~ 60 d MSB of data	×	○
One Patch Data Dump	32 (20H)	0 0 1 1 2 2 3 3	0 ~ 63 64 ~ 127 0 ~ 31 32 0 ~ 63 64 ~ 127 0 ~ 31 32	ONE INT SINGLE DATA DUMP ONE INT MULTI DATA DUMP ONE INT EFFECT DATA DUMP ONE INT DRUM DATA DUMP ONE EXT SINGLE DATA DUMP ONE EXT MULTI DATA DUMP ONE EXT EFFECT DATA DUMP ONE EXT DRUM DATA DUMP	○ ○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○ ○
Block Patch Data Dump	33 (21H)	0 0 1 2 2 3	0 64 0 0 64 0	ALL INT SINGLE DATA DUMP ALL INT MULTI DATA DUMP ALL INT EFFECT DATA DUMP ALL EXT SINGLE DATA DUMP ALL EXT MULTI DATA DUMP ALL EXT EFFECT DATA DUMP	○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○
All Patch Data Dump	34 (22H)	0 2	0 0	ALL INT DATA DUMP ALL EXT DATA DUMP	○ ○	○ ○
Edit Buffer Dump	35 (23H)	0 0 1 1	0 64 0 32	SINGLE MULTI EFFECT DRUM	× × × ×	○ ○ ○ ○
Program Change	48 (30H)	0 2	— —	INT EXT	○ ○	○ ○
Write Complete Write Error Write Error (Protect) Write Error (No Card)	64 (40H) 65 (41H) 66 (42H) 67 (43H)	— — — —	— — — —		○ ○ ○ ○	○ ○ ○ ○

11. PROGRAM NO. CONVERT TABLE

SINGLE

	INT/EXT							
	A		B		C		D	
1	0	00H	16	10H	32	20H	48	30H
2	1	01H	17	11H	33	21H	49	31H
3	2	02H	18	12H	34	22H	50	32H
4	3	03H	19	13H	35	23H	51	33H
5	4	04H	20	14H	36	24H	52	34H
6	5	05H	21	15H	37	25H	53	35H
7	6	06H	22	16H	38	26H	54	36H
8	7	07H	23	17H	39	27H	55	37H
9	8	08H	24	18H	40	28H	56	38H
10	9	09H	25	19H	41	29H	57	39H
11	10	0AH	26	1AH	42	2AH	58	3AH
12	11	0BH	27	1BH	43	2BH	59	3BH
13	12	0CH	28	1CH	44	2CH	50	3CH
14	13	0DH	29	1DH	45	2DH	51	3DH
15	14	0EH	30	1EH	46	2EH	52	3EH
16	15	0FH	31	1FH	47	2FH	53	3FH

MULTI

	INT/EXT							
	A		B		C		D	
1	64	40H	80	50H	96	60H	112	70H
2	65	41H	81	51H	97	61H	113	71H
3	66	42H	82	52H	98	62H	114	72H
4	67	43H	83	53H	99	63H	115	73H
5	68	44H	84	54H	100	64H	116	74H
6	69	45H	85	55H	101	65H	117	75H
7	70	46H	86	56H	102	66H	118	76H
8	71	47H	87	57H	103	67H	119	77H
9	72	48H	88	58H	104	68H	120	78H
10	73	49H	89	59H	105	69H	121	79H
11	74	4AH	90	5AH	106	6AH	122	7AH
12	75	4BH	91	5BH	107	6BH	123	7BH
13	76	4CH	92	5CH	108	6CH	124	7CH
14	77	4DH	93	5DH	109	6DH	125	7DH
15	78	4EH	94	5EH	110	6EH	126	7EH
16	79	4FH	95	5FH	111	6FH	127	7FH

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CORRECTION SHEET FOR K4 MIDI IMPLEMENTATION

Title	Error	Correction
1.TRANSMITTED DATA	3rd Description / 01vvvvvv Note off / vvvvvv = 0~127	3rd Description / 0vvvvvvv Note off / vvvvvvv = 0~127
4-1 ONE SINGLE/MULTI DATA DUMP	Sub status 1 0000000x 00H	Sub status 1 000000x0 00H
4-3. BLOCK SINGLE/MULTI DATA DUMP	Sub status 2 00x00000 00H	Sub status 2 0x000000 00H
5-9. BLOCK SINGLE/MULTI DATA DUMP	Sub status 2 00x00000 00H	Sub status 2 0x000000 00H
5-10.BLOCK EFFECT DATA DUMP	Sub status 2 00100000 40H	Sub status 2 00000000 00H
5-11.ALL PATCH DATA DUMP	Sub status 1 000000a0 00H 20H	Sub status 1 000000a0 00H 02H
5-12.ONE SINGLE/MULTI DATA DUMP	Sub status 2 000x0000 00H	Sub status 2 0x000000 00H
7.MULTI DATA LIST	<MULTI COMMON> M10 0vvvvvvv volume 0~99	M10 0vvvvvvv volume 0~100
8.DRUM DATA LIST	<COMMON> drm vel depth 0-100 <NOTE C1~5> out select s1 level 0-99 s2 level 0-99	<COMMON> drm vel depth 0-100/ -50~0~+50 <NOTE C1~5> submix ch s1 level 0-100 s2 level 0-100
9.EFFECT DATA LIST	<A~H> send 1 0-99 send 2 0-99	<A~H> send 1 0-100 send 2 0-100
11.PROGRAM NO. CONVERT TABLE	<D-13~16> 50,51,52,53	<D-13~16> 60,61,62,63

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